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Model for Controllinng the Total Costs of Quality

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Abstract

Monitoring of economic quality indicators enables a tool of management – quality controlling, which is a partial system of enterprise controlling and also a support tool of quality management. It is oriented into the optimization of costs, quality improvement processes and products and thus customer satisfaction. The paper is focused on model of controlling the total costs of quality for manufacturing small and medium size enterprises (SMEs). In this paper we pay attention to the proposal of sequential steps by implementation of this model, which considers aspects of quality of processes and bookkeeping. In its fundamentals it can help enterprises to create a compact controlling reporting system of monitoring costs of quality and detect hidden reserves in this area.

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Keywords: Quality, costs of quality, controlling, small and medium enterprises;

1. Introduction

An enterprise is under big pressure of competition in the market economy where it is difficult to compete without good financial and economic management. With the entry of foreign capital to our market is closely related also the input of new knowledge concerning enterprise management (Desai, 2008). The ambitions of enterprises are to be able to know themselves, to increase own financial-economic effectiveness, to adapt and to survive (Eben-Chaime, 2013). Growing pressure of developing market leads managers to implementing improved access analyses, planning and controlling, innovation of organisation structure and information systems (Kilger, Pampel and Vikas, 2012). A condition for success is becoming controlling, the tool integrating information processing, business planning analyses and control (Eschenbach and Siller, 2011; Horvath, 2008). It is one of the tools that can secure, transform and complete information about economic results into such form that would be useful for management.

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However, controlling functions as a modern management tool mostly in small and medium enterprises with foreign capital interest inspire of its benefits, advantages, effects and assets (Kupper, 2008; Potkany, Hajdukova amd Teplicka, 2012). Since the importance is becoming the economic side of quality and the aim of quality management is to reach the fact that quality becomes a measurable value, that means planned and controlled, the concept of controlling is being visible also in the area of quality management concerning controlling the costs of quality (Sasse, 2001; Wildenmann, 2000).

2. Methods and resources

To suggest the model for controlling the total costs of quality for manufacturing SMEs, it is required a use of methods of summary, synthesis and analogy of the knowledge and creation of a short literature review. In the second phase, a questionnaire method to process an empirical study was used, which represents an analysis of the situation in the solved subject matter within enterprise practice of manufacturing SMEs in Slovakia. The aim of empirical research was to find out the level of understanding and implementing of quality controlling in Slovak small and medium manufacturing enterprises as well as the detection of potential possibilities and interest in implementation of the subject matter into enterprise practice in future. Carrying out the empiric research was the starting point for the proposal of the Model for Controlling the Total Costs of Quality for Small and Medium Manufacturing Enterprises.

Partial aims of the research were to find out if enterprise practice is corresponding in the given area with modern knowledge of theory, to process the gained data and according to these to formulate findings and recommendations which would enrich theory and would contribute to better enterprise practice quality. At primary level of information gathering we used a questionnaire but also basic methods of theoretical research such as analyses, synthesis, induction, deduction, analogy and comparison.

When working on the fundamental part of the questionnaire we started from the model of quality cost monitoring according to PAF principles – prevention, appraisal, failure of costs (Pires, et al., 2013). The questionnaire targeted 300 most significant Slovak manufacturing SMEs. The core value of the questionnaire survey would be obtained if the questionnaires would be distributed to all Slovak manufacturing SMEs (i.e. the basic outline), which though was not possible from the available time-frame and financial viewpoint. Therefore we addressed with the research those enterprises which represent a crucial potential of the Slovak economy and so it was possible to generalise the obtained data into a basic outline.

The ratio of questionnaire return was 62 % that means 136 completed questionnaires. When designing the methodology of questionnaire evaluation it was important to realise, that the selected surveyed enterprises stand for relatively small sample to apply statistical methods of questionnaire survey evaluation. The questionnaire was evaluated by a description method, numerically and in percent in tables and graphs. In the third phase we designed the model for controlling the total costs of quality for small and medium manufacturing enterprises. We used partial methodical characteristics of the following areas: cost quality model PAF, calculation of incomplete costs, process analysis and Activity Based Costing Calculation to design the research. In the final part of the paper we evaluated the obtained results by the deduction method and defined its assets for science, theory and practice.

3. Results and discussion

3.1. Results of empirical research

From the empirical research we found out the following results:

- 74 % of asked enterprises do not consider management of quality and controlling the costs of quality as identical areas while 48 % of the asked think that these two areas still have something in common. These two answers can be considered as right which means that most of respondents have the proper knowledge of the subject matter.
- Enterprises from the point of view of monitoring individual groups of costs according to PAF model pay bigger attention to monitoring cost entries for external failures (67 %).

- Own methodology for the reason of cost monitoring has only a small group of respondents (26 %) and it only concerns scoring reclamations/claims.
- Companies are dealing mostly with costs on external and internal failures that mean losses caused by poor quality (cumulatively 65 % answers).
- In the surveyed enterprises which deal with controlling the costs of quality, these have mostly cumulated job functions (74 % of respondents) and these represent posts of quality managers, agents for quality and managers of manufacture, but only 4 % of the surveyed enterprises have for this reason its own job position of a quality controller.
- Majority of respondents are certified or are in the certification process according to ISO standards (57 %) and another 37 % are interested in certification in future.
- Majority of respondents have set up of map processes or will prepare them in a short future (total 57 %).
- 65 % of respondents deal with loses due to faulty manufacture.
- We can conclude that 29 % of respondents stated that they would be interested in implementing quality controlling into their enterprises, 34 % stated that „yes, but we are not sure“ and the rest of 37 % did not show the interest in implementing controlling the costs of quality within the enterprise at all.

The summary of the presented findings can be formulated as the results of the conducted survey: Slovak small and medium manufacturing enterprises in the area of controlling the costs of quality deal mostly with costs of quality, more precisely with costs for external and internal failures (losses caused by poor quality). This means that from the view of the level of development controlling the costs of quality are these enterprises just in its initial phase of development. For future, it is necessary to interconnect the cost of quality monitoring with orientation on customer, with the process orientation in the area of quality, where monitoring traditional costs of quality indicators need to be supplemented by performance process indicators.

3.2. Model for controlling the total costs of quality for manufacturing SMEs

Empirical results of research present, that the practice of small and medium manufacturing enterprises in Slovakia do not dispose of a unified monitoring methodology and appraisal of quality costs. In general, they do not use further possibilities which are within the modern knowledge in controlling in the presented area applicable. Our proposed model for controlling the total costs of quality for small and medium manufacturing enterprises (Fig. 1) consists of nine bases steps, which consider the aspects of quality of processes and accounting.

Implementation of the proposed model for controlling the total costs of quality for manufacturing small and medium enterprises is from our point of view financially and time saving. This model is established on assumptions of evidence of costs of financial accounting and requires their shift for needs of management profit and loss account in the form of controlling reports. Based on these findings, it can help enterprises to create a compact controlling reporting system of monitoring costs of quality and their further evaluation on the bases of controlling principles which will show the transparent flow of costs and will detect hidden reserves and enable their elimination. As small and medium enterprises show high adaptability at receiving and use of progressive tools in the area of management (Sedliacikova, Satanova and Foltínova, 2012), we can state that our proposal could be used in small and medium manufacturing enterprises and becomes the stimulation for its use in conditions of big manufacturing enterprises.

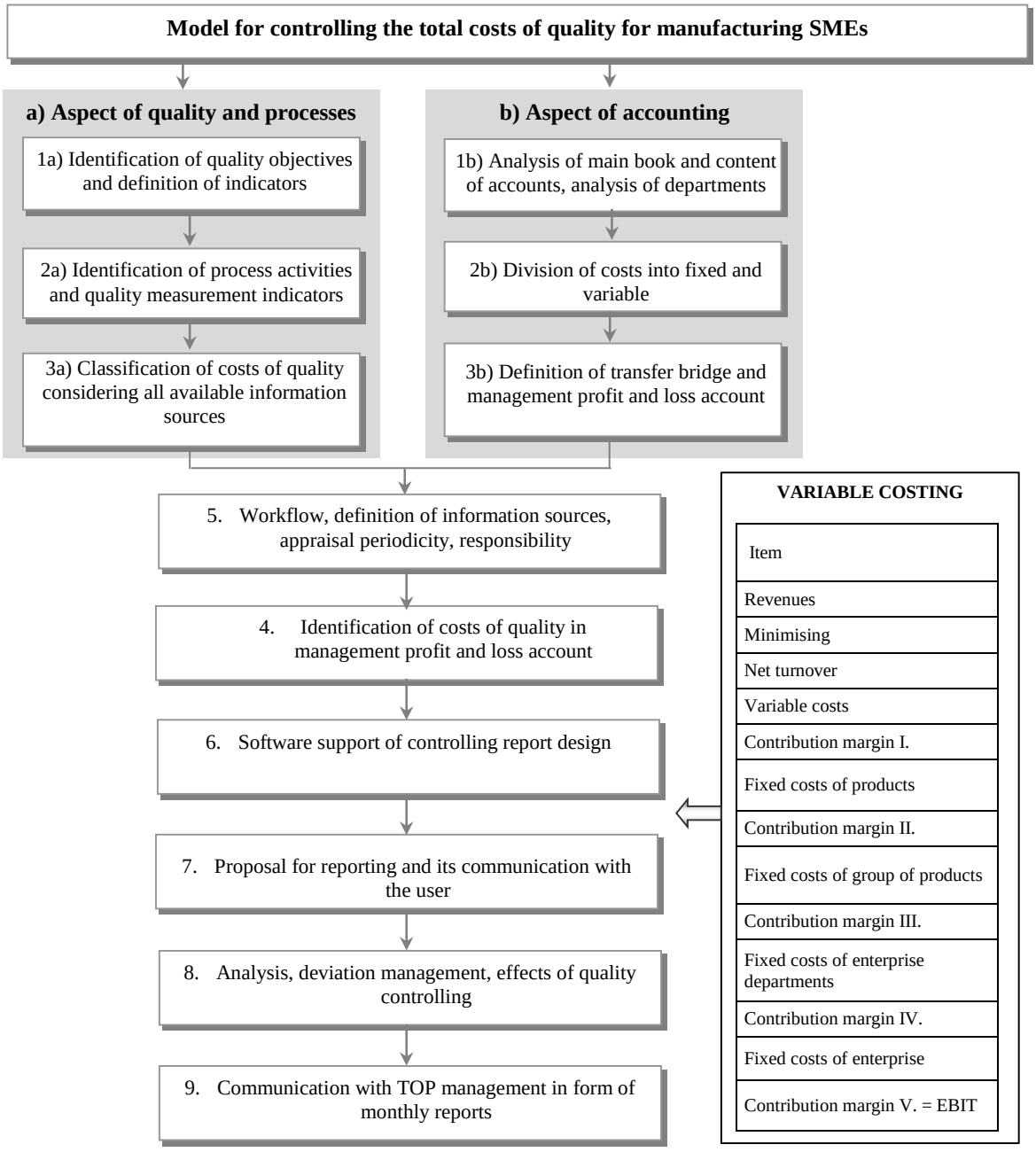

Fig. 1. Model for controlling the total costs of quality for manufacturing SMEs

4. Conclusion

In recent years an economic aspect of quality is getting into the forefront on the larger scale. Quality is not only a technical category and the system of the management of quality is not focused on the product quality orientation (Zavadsky, Zavadska, 2013). Quality and costs are closely interlinked. From this reason, part of the quality management system should be also the system of costs of quality monitoring, but in many enterprises this does not work (Weinstein, et. al., 2009).

In the introduced paper, the present state of the subject matter was analysed on the basis of the literature review with the focus on the core of the controlling the costs of quality. Consecutively via the questionnaire survey, the level of understanding, implementation and establishing of controlling the costs of quality was determined in Slovak manufacturing SMEs and the complex model for controlling the total costs of quality suitable for small and medium manufacturing enterprises was proposed.

The essence of the introduced model is to present the sequence of steps necessary for application of quality controlling concept in conditions of small and medium manufacturing enterprises which stem from identification of quality aims, processes, and costs of quality, collection of data and definition of information sources until the final transformation into the pattern of controlling reports.

At the end we can state that controlling of quality principles are closely related to principles of total quality management, and therefore controlling the costs of quality can be considered as a supporting tool of TQM philosophy (Lari and Asllani, 2013). We can conclude that the fundamental bases of controlling the costs of quality are costs of quality which are in practice often underestimated.

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